

C. Remarks

The claims are 1, 7 and 9, with claims 1 and 9 being independent. Claims 2-6 and 8 have been cancelled. Claims 1 and 9 have been amended to include the features of the cancelled claims. Claim 7 has been amended to reflect the cancellation of claim 5. No new matter has been added. Reconsideration of the present claims is expressly requested.

Claims 1, 5-7 and 9 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by the admitted prior art shown in Figs. 1 and 2 and discussed in the specification on pages 6-8. Claims 2-4 and 8 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious in view of the above-mentioned admitted prior art. The grounds of rejection are respectfully traversed.

The presently claimed invention is related, in pertinent part, to a method of making a mold for a microlens having a desired radius (R) of curvature and a method for making the microlens using the mold. In either method, the mold is formed by electroplating on the conductive substrate over an opening formed by an insulating mask, such that the electroplated material reaches a minimum radius R of curvature (R_{\min}) before the desired radius is reached. Importantly, a diameter or width (ϕ) of the opening is $10\mu\text{m} \leq \phi \leq 0.35R$.

When the opening diameter or width does not meet this criteria, substantially different results are produced (page 25, lines 2-8). For example, when ϕ is less than $10\mu\text{m}$, a plated layer is semispherical from the onset of the electroplating process, and its radius of curvature steadily increases. However, it takes time to reach the desired radius R of curvature, particularly when this radius is relatively large. When the opening diameter ϕ is larger than $0.35R$, R_{\min} that is formed following the disappearance of the flat portion is

larger than the desired radius R. Therefore, it is not possible to form a lens of a desired radius of curvature according to the claimed process.

The Examiner acknowledged that the allegedly admitted prior art of Fig. 1 does not disclose the sizes of the opening or the desired radius R. Nonetheless, the Examiner alleged that these values could be readily determined by those skilled in the art. However, as demonstrated above, electroplating proceeds differently depending on the specific radius of curvature desired and the opening in which plating is conducted. Clearly, when looking to form a desired shape of the mold a skilled artisan would not readily be able to discern the presently claimed relationship of the radius and the opening. Thus, Applicants respectfully submit that the presently claimed method is patentable over Fig. 1.

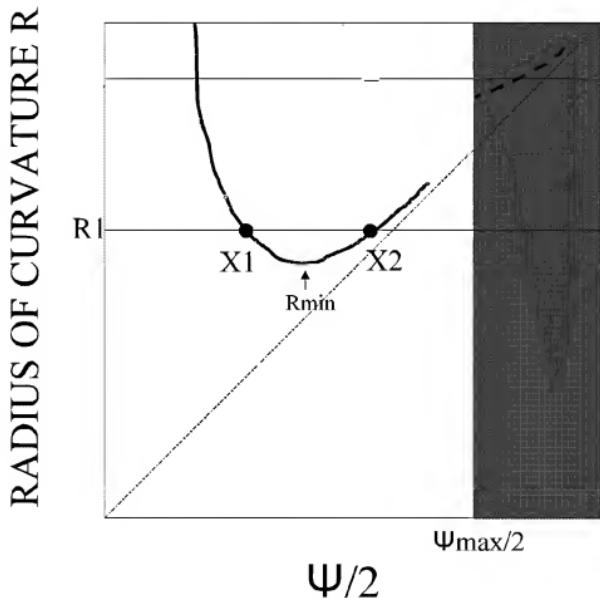
Claims 1-9 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 14-43 in U.S. Patent No. 6,656,393 B2. The grounds of rejection are respectfully traversed.

The present application is a division of the '393 patent. The present claims are based on claims 60-68 in the parent case, which were cancelled as a result of a March 11, 2003 restrictions requirement and pursued in this division. The Examiner has alleged that even if the claims of the present application were restricted out of the parent application, that restriction was improper and the rejection still stands. However, this is contrary to the provisions of 35 U.S.C. § 121, which was enacted specifically to prevent double patenting rejections in divisional applications filed due to improper restriction requirements, i.e., the propriety of the restriction requirement in the parent application has

no bearing on the applicability of the prohibition against double patenting rejections under 35 U.S.C. § 121.

Regardless, Applicants respectfully submit that the claims in the '393 patent do not recite the step of terminating electroplating after forming R_{\min} . As shown in attached Fig. A below, the curvature radius reaches the desired value R_1 twice during the electroplating process (points X1 and X2).

Fig. A:



When this radius is initially reached, however, a radius $\psi/2$ of the bottom of the plated layer is small compared with R. As a result, a dark lens is produced. By terminating the electroplating step after R_{min} is reached, a lens is formed in which $\psi/2$ is almost equal to R, i.e., a semispherical and clear lens. Thus, Applicants respectfully submit that at least step (e) in claims 1 and 9 makes these claims are patentably distinct from the claims in the '393 patent.

Wherefore, allowance of the claims and expedient passage to issue are respectfully requested.

This Amendment After Final Rejection should be entered, because it places the case in allowable form. Alternatively, it places the case in a better form for a possible appeal.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

/Jason M. Okun/
Jason M. Okun
Attorney for Applicants
Registration No. 48,512

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200